UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,816	08/29/2001	Masahiro Kitamura	15162/03920	7577

24367 7590 06/13/2005

SIDLEY AUSTIN BROWN & WOOD LLP
717 NORTH HARWOOD
SUITE 3400
DALLAS, TX 75201

EXAMINER	
AGGARWAL, YOGESH K	
ART UNIT	**PAPER NUMBER**
2615	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/941,816	KITAMURA ET AL.	
	Examiner	Art Unit	
	Yogesh K. Aggarwal	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *17 and 18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed 03/24/2005 have been fully considered but they are not persuasive.

Examiner's response:

2. Applicant argues w.r.t claims 1, 4, 5, 9, 12 and 13 that the admitted prior art relates to systems that create a blur controlled image based upon processing of two or more images taken at different focal lengths. The amount of blur in the final blur controlled image can be controlled by the various algorithms employed by these admitted prior art systems on the different focal length images. In contrast, Watanabe is directed to a pen-like image reader having a fixed focal length optical system. Because of the fixed focal length of Watanabe's system, the single image captured by Watanabe may include both in-focus and blurred regions, but the amount of blur is not controlled by processing multiple images. The Applicants respectfully submit that combining a system producing a blur controlled image from multiple, different focal length images with a system producing a blur uncontrolled image from a single, fixed focal length image is improper. The Examiner respectfully disagrees.

3. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Applicant's admitted prior art teaches a blur controlled image based upon processing of two or more images taken at different focal lengths (Paragraph 5) and therefore the claimed limitation "a synthesizer for generating a blur controlled image with an adjusted amount of blur from multiple images having

different focal lengths" . The heart of applicant's invention is to control other processes like high frequency emphasis (coring), compression ratio based on the blur amount in the image, for example as explained in paragraphs 36 and 37 on page 6. Watanabe teaches that when a pen type device is inclined an in-focus position is shifted due to which the image is blurred (col. 5 lines 21-25). Watanabe teaches that if this blurred image is simply caused to pass through the filter serving as high frequency emphasis circuit a correction is not complete and the signal suffers the influence of noise (col. 17 lines 22-34). To overcome this problem, Watanabe teaches the circuit is arranged such that the filter coefficient of the high-frequency emphasis circuit 22 can be changed, i.e., the high-frequency components can be highly emphasized, thereby obtaining an ideal input signal for binarization. The filter coefficient is generated in the coefficient generation circuit 44 in accordance with blur amount information from the blur amount calculation circuit 42. Therefore, high-frequency emphasis can be performed in correspondence with the blur amount (col. 17 lines 36-44). Hence by removing the low frequencies and emphasizing the higher frequencies the noise from the signal is reduced.

4. Applicant argues w.r.t claim 6, 7, 14 and 15 and claims 8 and 16 that Hata has a variable focal length but generates a single focal length. Examiner's arguments regarding claims 1,4,5,9, 12 and 13 also apply here.

Election/Restrictions

5. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claim(s) 1-16, drawn to an image processing apparatus and an image sensing device, which includes a synthesizer, a processor for performing a process other than blur control and a

changer for changing a degree of the process other than blur control is classified in class 348, subclass 349.

II. Claim(s) 17and 18, drawn to an image processing apparatus, which includes a synthesizer, an aperture controller including a first splitter for bifurcating the blur controlled image into first and second blur controlled images; a low-pass filter for low-passs filtering the first blur controlled image; a second splitter for bifurcating the thus low-pass filtered first blur controlled image into first and second low-pass filtered blur controlled images; a subtractor for subtracting the first lowpass filtered blur controlled image from the second blur controlled image, thereby creating a high frequency blur controlled image; a coring processor for removing frequency components from the high frequency blur controlled image, thereby creating a cored blur controlled image; an amplifier for amplifying the cored blur controlled image; and an adder for combining the second lowpass filtered blur controlled image and the thus amplified cored blur controlled image is classified in class 348, subclass 252.

The inventions are distinct, each from the other because of the following reasons:

6. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has a separate utility such as an image processing apparatus having an aperture control function which does not list the features detected in group I. See MPEP § 806.05(d)

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17 and 18 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1 .142(b) and MPEP j 821.03.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 4, 5, 9, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Watanabe (US Patent # 5,764,611).

[Claims 1 and 9]

Applicant's admitted prior art teaches an image processing apparatus comprising a synthesizer for generating a blur controlled image with an adjusted blur amount from multiple images having different focal lengths (Paragraph 5) and an image processor for performing a process other than blur control on the blur-controlled image generated by the synthesizer (Paragraph 6). Applicant's admitted prior art fails to teach a changer for changing a degree of the process other than blur control in accordance with the amount of blur. However Watanabe teaches a high frequency emphasis circuit (figure 1, element 22) in which high frequencies are emphasized in correspondence with the blur amount (col. 17 lines 35-44). Therefore taking the combined teachings of Applicant's admitted prior art and Watanabe, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a changer i.e. high

frequency emphasis circuit (figure 1, element 22) in which high frequencies are emphasized in correspondence with the blur amount in order to remove the noise better by removing low frequencies and emphasize the higher frequencies.

[Claims 4, 5, 12, 13]

Applicant's admitted prior art teaches that the processor used is a coring processor (Paragraph 8). Watanabe teaches a high frequency emphasis circuit (figure 1, element 22) in which high frequencies are emphasized (low frequencies are removed) in correspondence with the blur amount (col. 17 lines 35-44) so that the high frequencies will be emphasized (low frequencies are removed) more, as the blur amount will be increased.

10. Claims 2, 3, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art, Watanabe (US Patent # 5,764,611) and in further view of Ikeda (US Patent # 6,421,087).

[Claims 2,3, 10, 11]

Applicant's admitted prior art in view of Watanabe teaches that the processor is an image compressor (Paragraph 6) but fails to teach wherein said changer changes the image compression ratio such that the image compression ratio increases as the amount of blur increases. However Ikeda teaches that it is possible to increase the compression factor for chrominance generated through blurring of an image and having a narrow bandwidth (col. 13 lines 41-61) in order to reduce color moiré. Therefore taking the combined teachings of Applicant's admitted prior art, Watanabe and Ikeda, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a changer changes the image compression ratio such that the image compression ratio increases as the amount of blur increases. The benefit of doing

so would be to have a synthesized image of high quality and high definition as taught in Ikeda (col. 13 lines 59-61).

11. Claims 6, 7, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art, Watanabe (US Patent # 5,764,611) and in further view of Hata (US Patent # 6,603,508).

[Claims 6, 7, 14,15]

Applicant's admitted prior art in view of Watanabe teaches that the processor is an aperture controller (Paragraph 8) but fails to teach wherein said changer changes the amplification ratio such that the amplification increases as the amount of blur increases. However Hata teaches that the CPU increases the gain of the VG amplifier 105 during the blur-avoiding mode in order to determine an optimum exposure (col. 9 lines 61-67, col. 10 lines 1-5). Therefore taking the combined teachings of Applicant's admitted prior art, Watanabe and Hata, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a changer that changes the amplification ratio such that the amplification increases as the amount of blur increases. The benefit of doing so would be that the blurring during taking of the photograph is avoided.

12. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art, Watanabe (US Patent # 5,764,611) and in further view of Miyawaki et al. (US Patent # 6,522,360).

[Claims 8 and 16]

Applicant's admitted prior art in view of Watanabe fail to teach wherein the processor is a gamma corrector and said changer changes a value of gamma correction by the gamma corrector

in accordance with the amount of blur. However Miyawaki et al. teaches a gamma corrector (figure 1, element 53) which changes a value of gamma correction after the TV-AF circuit 54 indicates the amount of blur in the image (col. 1 lines 36-67, col. 2 lines 1-5) in order to change gamma correction with the amount of blur indicated by the TV-AF circuit. Therefore taking the combined teachings of Applicant's admitted prior art, Watanabe and Miyawaki, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a gamma corrector and a changer that changes a value of gamma correction by the gamma corrector in accordance with the amount of blur. The benefit of doing so that the user in accordance with can use a fixed area for gamma correction am amount of blur.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA
June 9, 2005

DAVID L. OMETZ
PRIMARY EXAMINER